## **Dell™ P2012H Flat Panel Monitor**

User Guide

Setting the display resolution to 1600 x 900 (maximum)

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Model P2012Ht

November 2011 Rev. A00

## Dell™ P2012H Flat Panel Monitor User's Guide

**About Your Monitor** 

Setting Up the Monitor

Operating the Monitor

**Troubleshooting** 

**Appendix** 

# Notes, Cautions, and Warnings



NOTE: A NOTE indicates important information that helps you make better use of your computer.



**CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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Model P2012Ht

November 2011 Rev. A00

# **Setting Up Your Monitor**

**Dell™ P2012H Flat Panel Monitor** 

# Setting the display resolution to 1600 x 900 (maximum)

For maximum display performance with  $Microsoft^{@}$  Windows  $^{@}$  operating systems, set the display resolution to **1600 x 900** pixels by performing the following steps:

In Windows XP:

- 1. Right-click on the desktop and click **Properties**.
- 2. Select the Settings tab.
- 3. Move the slider-bar to the right by pressing and holding the left-mouse button and adjust the screen resolution to  $1600 \times 900$ .
- 4. Click OK.

In Windows Vista® or Windows® 7:

- 1. Right-click on the desktop and click **Personalization**.
- 2. Click Change Display Settings.
- 3. Move the slider-bar to the right by pressing and holding the left-mouse button and adjust the screen resolution to  $1600 \times 900$ .
- 4. Click OK.

If you do not see **1600 x 900** as an option, you may need to update your graphics driver. Please choose the scenario below that best describes the computer system you are using, and follow the provided directions:

- 1: <u>If you have a Dell™ desktop or a Dell™ portable computer with internet access.</u>
- 2: If you have a non Dell™ desktop, portable computer, or graphics card.

## **About Your Monitor**

**Dell™ P2012H Flat Panel Monitor User's Guide** 

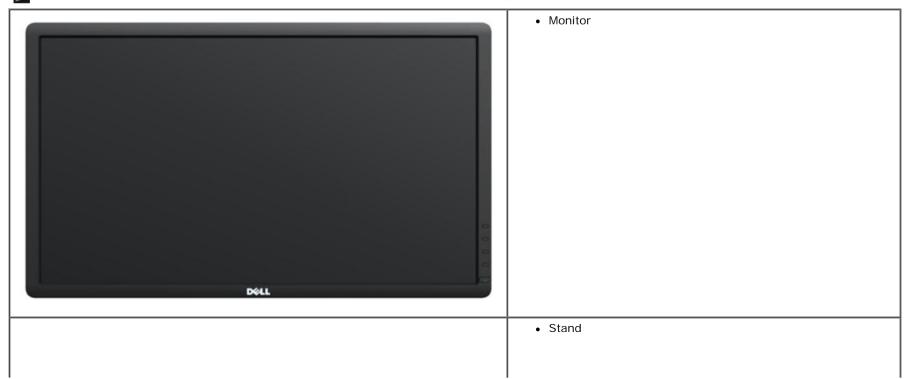
- Package Contents
- Product Features
- Identifying Parts and Controls
- Monitor Specifications
- Plug and Play Capability
- Universal Serial Bus (USB) Interface
- LCD Monitor Quality and Pixel Policy
- Maintenance Guidelines

## **Package Contents**

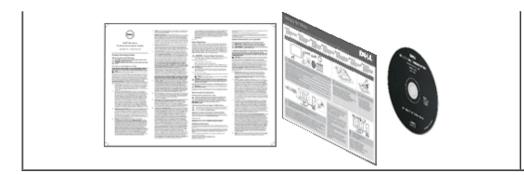
Your monitor ships with the components shown below. Ensure that you have received all the components and contact Dell if something is missing.



**NOTE**: To set up with any other stand, please refer to the respective stand setup guide for setup instructions.



Power Cable
VGA Cable (Attached to the monitor)
DVI Cable
USB up stream cable (enables the USB ports on the monitor)
<ul> <li>Drivers and Documentation media</li> <li>Quick Setup Guide</li> <li>Product and Safety Information Guide</li> </ul>



## **Product Features**

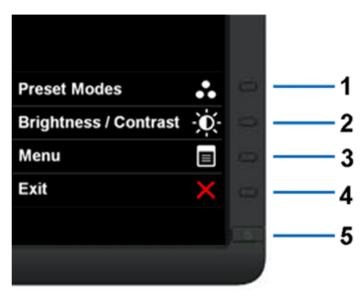
The Dell Professional P2012H flat panel display has an active matrix, Thin-Film Transistor (TFT), Liquid Crystal Display (LCD). The monitor features include:

- 20-inch (50.80 cm) viewable area display (Measured diagonally), 1600 x 900 resolution, plus full-screen support for lower resolutions.
- Wide viewing angle to allow viewing from a sitting or standing position, or while moving from side-to-side.
- Tilt, swivel, vertical extension and rotate adjustment capability (with Enhanced Menu Rotation).
- Removable pedestal and Video Electronics Standards Association (VESA<sup>TM</sup>) 100 mm mounting holes for flexible mounting solutions.
- Plug and play capability if supported by your system.
- On-Screen Display (OSD) adjustments for ease of set-up and screen optimization.
- Software and documentation media includes an information file (INF), Image color Matching File (ICM), PowerNap software application and product documentation.
- Energy Saver feature for Energy Star compliance.
- Security lock slot.
- Asset Management Capability.
- Capability to switch from wide aspect to standard aspect ratio while maintaining the image quality.
- EPEAT Gold Rating.
- Halogen Free. (excluding external cables)
- Arsenic-Free glass and Mercury Free for Panel only.
- High Static contrast ratio of 1000:1 (typical) and Dynamic Contrast Ratio of 2 Million:1.
- 0.1W standby power when in sleep mode.
- Energy Gauge shows the energy level being consumed by the monitor in real time.
- PowerNap and Dynamic Dimming Software included (comes in the CD attached with the monitor).
- TCO Certified Displays.

# **Identifying Parts and Controls**

## **Front View**



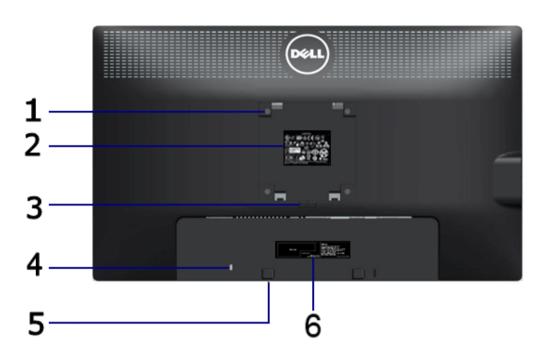


Front View

Label	Description	
1	Preset Modes (default, but configurable)	
2	2 Brightness & Contrast (default, but configurable)	
3	Menu	
4 Exit		
5	Power (with power light indicator)	

Front panel controls

## **Back View**





Back view

Back view with monitor stand

Label	Description	Use	
1	VESA mounting holes (100 mm x 100 mm - behind attached VESA Plate)	Wall mount monitor using VESA-compatible wall mount kit (100 mm x 100 mm).	
2	Regulatory label	Lists the regulatory approvals.	
3	Stand release button	Release stand from monitor.	
4	Security lock slot	Secures monitor with security cable lock.	
5	Dell Soundbar mounting brackets	Attaches the optional Dell Soundbar.	
6	Barcode serial number label	Refer to this label if you need to contact Dell for technical support.	
7	USB downstream ports	Connect your USB devices.	
8	Cable management slot	Use to organize cables by placing them through the slot.	

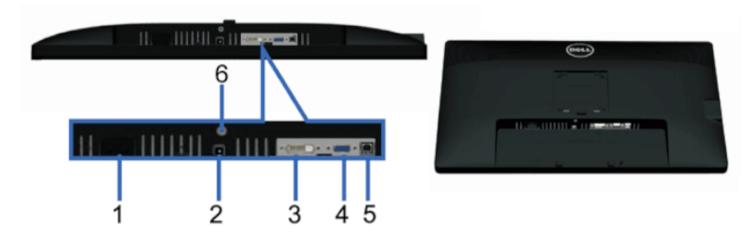
# **Side View**



Left view

Right view

# **Bottom View**



#### **Bottom view**

#### Bottom view with monitor stand

Label	Description	Use
1	AC power cord connector	Connect the power cable.
2	DC power connector for Dell Soundbar	Connect the power cord for the soundbar (optional).
3	DVI connector	Connect your computer DVI cable.
4	VGA connector	Connect your computer VGA cable.
5	USB upstream port	Connect the USB cable that came with your monitor to the monitor and the computer. Once this cable is connected, you can use the USB connectors on the side of the monitor.

6	Stand lock feature	To lock the stand to the monitor using M3 x 6mm machine screw (screw not provided).
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# **Monitor Specifications**

# **Flat Panel Specifications**

Screen type	Active matrix - TFT LCD
Panel type	TN
Screen dimensions	508.0 mm (20-inches viewable image size)
Preset display area:	442.8 (H) X 249.1 (V) mm
Horizontal	442.8 mm (17.43 inches)
Vertical	249.1 mm (9.81 inches)
Pixel pitch	0.277 mm
Viewing angle	160° (vertical) typ, 170° (horizontal) typ
Luminance output	250 cd/m <sup>2</sup> (typ)
Contrast ratio	1000 to 1 (typ)
Dynamic contrast ratio	Up to 2,000,000 : 1 (typ)
Faceplate coating	Antiglare with hard-coating 3H
Backlight	LED edgelight system
Response Time	5 ms black to white (typical)
Color depth	16.7 million colors
Color gamut (Typical)	82%*

 $<sup>^{\</sup>star}\mbox{[P2012H]}$  color gamut (typical) is based on CIE1976 (82%) and CIE1931 (72%) test standards.

# **Resolution Specifications**

Horizontal scan range	30 kHz to 83 kHz (automatic)
Vertical scan range	56 Hz to 76 Hz (automatic)
Maximum resolution	1600 x 900 at 60 Hz

# **Video Supported Modes**

Video display capabilities (DVI playback)	480p, 480i, 576p, 576i, 720p, 1080p and 1080i
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# **Preset Display Modes**

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (Horizontal/Vertical)
720 x 400	31.5	70.0	28.3	-/+
640 x 480	31.5	60.0	25.2	-/-
640 x 480	37.5	75.0	31.5	-/-
800 x 600	37.9	60.0	40.0	+/+
800 x 600	46.9	75.0	49.5	+/+
1024 x 768	48.4	60.0	65.0	-/-
1024 x 768	60.0	75.0	78.8	+/+
1152 x 864	67.5	75.0	108.0	+/+
1280 x 1024	64.0	60.0	108.0	+/+
1280 x 1024	80.0	75.0	135.0	+/+
1600 x 900	60.0	60.0	108.0	+/+

# **Electrical Specifications**

Video input signals	Analog RGB, 0.7 Volts +/-5%, positive polarity at 75 ohm input impedance Digital DVI-D TMDS, 600mV for each differential line, positive polarity at 50 ohm input impedance
Synchronization input signals	Separate horizontal and vertical synchronizations, polarity-free TTL level, SOG (Composite SYNC on green)
AC input voltage/frequency/current	100 to 240 VAC/50 or 60 Hz ± 3 Hz/1.5 A (Max.)
Inrush current	120V:30A (Max.) 240V:60A (Max.)

# **Physical Characteristics**

Connector type	15-pin D-subminiature, blue connector; DVI-D, white connector
Signal cable type	Digital: Detachable, DVI-D, Solid pins, shipped detached from the monitor

	Analog: Detachable, D-Sub, 15 pins, shipped attached to the monitor		
Dimensions (with stand)			
Height (extended)	474.56 mm (18.68 inches)		
Height (compressed)	344.56 mm (13.57 inches)		
Width	478.40 mm (18.84 inches)		
Depth	183.34 mm (7.22 inches)		
Dimensions (without stand)			
Height	284.70 mm (11.21 inches)		
Width	478.40 mm (18.84 inches)		
Depth	59.50 mm (2.34 inches)		
Stand dimensions			
Height (extended)	401.21 mm (15.80 inches)		
Height (compressed)	358.07 mm (14.10 inches)		
Width	265.84 mm (10.47 inches)		
Depth	183.34 mm (7.22 inches)		
Weight			
Weight with packaging	6.33 kg (13.96 lb)		
Weight with stand assembly and cables	5.08 kg (11.20 lb)		
Weight without stand assembly (For wall mount or VESA mount considerations - no cables)	2.88 kg (6.35 lb)		
Weight of stand assembly	1.74 kg (3.83 lb)		
Front Frame Gloss	5.0 gloss unit (max.) (Black Frame)		

# **Environmental Characteristics**

Temperature		
Operating	0 °C to 40 °C	
Non-operating	Storage: -20 °C to 60 °C (-4 °F to 140 °F) Shipping: -20 °C to 60 °C (-4 °F to 140 °F)	
Humidity		

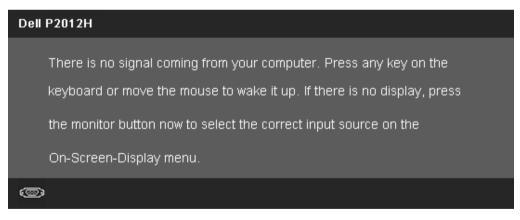
Operating	10% to 80% (non-condensing)
Non-operating	Storage: 5% to 90% (non-condensing) Shipping: 5% to 90% (non-condensing)
Altitude	
Operating	3,048 m (10,000 ft) max
Non-operating	10,668 m (35,000 ft) max
Thermal dissipation	153.55 BTU/hour (maximum) 68.25 BTU/hour (typical)

## **Power Management Modes**

If you have VESA's DPM™ compliance display card or software installed in your PC, the monitor can automatically reduce its power consumption when not in use. This is referred to as *Power Save Mode*\*. If the computer detects input from keyboard, mouse, or other input devices, the monitor automatically resumes functioning. The following table shows the power consumption and signaling of this automatic power saving feature:

VESA Modes	Horizontal Syncc	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	Blue	20 W (typical)/45 W (maximum)**
Active-off mode	Inactive	Inactive	Blanked	Amber	Less than 0.1 W
Switch off	-	-	-	Off	Less than 0.1 W

The OSD will only function in the normal operation mode. When any button is pressed in Active-off mode, one of the following messages will be displayed:



Activate the computer and the monitor to gain access to the OSD.



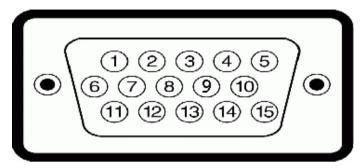


**NOTE**: This monitor is **ENERGY STAR**<sup>®</sup>-compliant.

- \* Zero power consumption in OFF mode can only be achieved by disconnecting the main cable from the monitor.
- \*\* Maximum power consumption with max luminance, Dell Soundbar, and USB active.

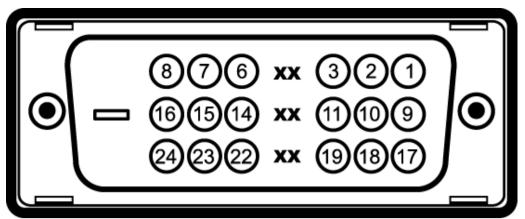
# **Pin Assignmentss**

## **VGA Connector**



Pin Number	15-pin Side of the Connected Signal Cable	
1	Video-Red	
2	Video-Green	
3	Video-Blue	
4	GND	
5	Self-test	
6	GND-R	
7	GND-G	
8	GND-B	
9	Computer 5V/3.3V	
10	GND-sync	
11	GND	
12	DDC data	
13	H-sync	
14	V-sync	
15	DDC clock	

## **DVI** Connector



Pin Number	24-pin Side of the Connected Signal Cable	
1	TMDS RX2-	
2	TMDS RX2+	
3	TMDS Ground	
4	Floating	
5	Floating	
6	DDC Clock	
7	DDC Data	
8	Floating	
9	TMDS RX1-	
10	TMDS RX1+	
11	TMDS Ground	
12	Floating	
13	Floating	
14	+5V/+3.3V power	
15	Self test	
16	Hot Plug Detect	
17	TMDS RX0-	
18	TMDS RX0+	
19	TMDS Ground	
20	Floating	
21	Floating	
22	TMDS Ground	

23	TMDS Clock+
24	TMDS Clock-

# **Plug and Play Capability**

You can install the monitor in any Plug and Play-compatible system. The monitor automatically provides the computer system with its Extended Display Identification Data (EDID) using Display Data Channel (DDC) protocols so the system can configure itself and optimize the monitor settings. Most monitor installations are automatic; you can select different settings if desired. For more information about changing the monitor settings, see <a href="Operating the Monitor">Operating the Monitor</a>.

## Universal Serial Bus (USB) Interface

This section gives you information about the USB ports that are available on the left side of your monitor.



**NOTE:** This monitor supports High-Speed Certified USB 2.0 interface.

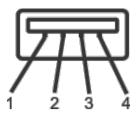
Transfer speed	Data Rate	Power Consumption
High speed	480 Mbps	2.5W (Max., each port)
Full speed	12 Mbps	2.5W (Max., each port)
Low speed	1.5 Mbps	2.5W (Max., each port)

## **USB Upstream Connector**



Pin Number	4-pin Side of the Connector
1	DMU
2	VCC
3	DPU
4	GND

#### **USB Downstream Connector**



Pin Number	4-Pin Side of the Signal Cable
1	vcc
2	DMD
3	DPD
4	GND

#### **USB Ports**

- 1 upstream back
- 4 downstream 2 on back; 2 on left side



NOTE: USB 2.0 functionality requires a USB 2.0-capable computer



NOTE: The monitor's USB interface works only when the monitor is on or in power save mode. If you turn off the monitor and then turn it on, the attached peripherals may take a few seconds to resume normal functionality.

## LCD Monitor Quality and Pixel Policy

During the LCD Monitor manufacturing process, it is not uncommon for one or more pixels to become fixed in an unchanging state which are hard to see and do not affect the display quality or usability. For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: support.dell.com.

## **Maintenance Guidelines**

## **Cleaning Your Monitor**



WARNING: Read and follow the <u>safety instructions</u> before cleaning the monitor.



WARNING: Before cleaning the monitor, unplug the monitor power cable from the electrical outlet.

For best practices, follow the instructions in the list below while unpacking, cleaning, or handling your monitor:

• To clean your antistatic screen, lightly dampen a soft, clean cloth with water. If possible, use a special screen-cleaning tissue or solution suitable for the antistatic coating. Do not use benzene, thinner, ammonia, abrasive cleaners, or compressed air.

Use a lightly-dampened, warm cloth to clean the monitor. Avoid using detergent of any kind as some detergents leave a milky film on the monitor.

- If you notice white powder when you unpack your monitor, wipe it off with a cloth.
  Handle your monitor with care as a darker-colored monitor may scratch and show white scuff marks more than a lighter-colored monitor.
  To help maintain the best image quality on your monitor, use a dynamically changing screen saver and turn off your monitor when not in use.

## **Setting Up the Monitor**

Dell™ P2012H Flat Panel Monitor User's Guide

- Attaching the Stand
- Connecting the Monitor
- Organizing Your Cables
- Attaching the Soundbar (optional)
- Removing the Stand
- Wall Mounting (Optional)

## **Attaching the Stand**



**NOTE**: The stand is detached when the monitor is shipped from the factory.



NOTE: This is applicable for a monitor with a stand. When any other stand is bought, please refer to the respective stand setup guide for set up



To attach the monitor stand:

- Remove the cover and place the monitor on it.
- 2. Fit the two tabs on the upper part of the stand to the groove on the back of the monitor 3. Press the stand till it snaps into its place.

#### **Connecting Your Monitor**



**WARNING:** Before you begin any of the procedures in this section, follow the <u>Safety Instructions</u>.

To connect your monitor to the computer:

1. Turn off your computer and disconnect the power cable. Connect the blue (VGA) cable from your monitor to your computer.



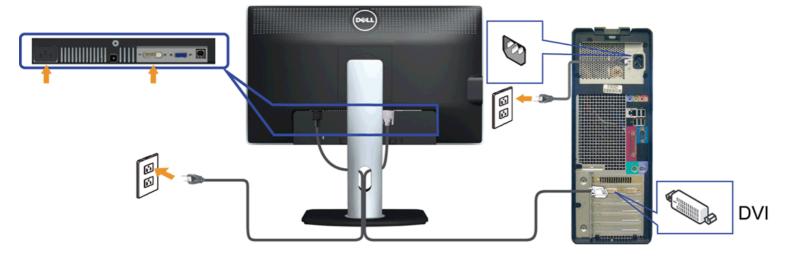


NOTE: If your computer supports a white DVI connector, unscrew and detach the blue (VGA) cable from the monitor and then connect the White DVI cable to the monitor and the white DVI connector on your computer.



- **MOTE**: Do not connect the blue VGA, the white DVI, or the black DisplayPort cables to the computer at the same time.
- 2. Connect the white (digital DVI-D) or the blue (analog VGA) or the black (DisplayPort) display connector cable to the corresponding video port on the back of your computer. Do not use the three cables on the same computer. Use all the cables only when they are connected to three different computers with appropriate video systems.

#### Connecting the white DVI cable



## Connecting the blue VGA cable



△ CAUTION: The Graphics are used for the purpose of illustration only. Appearance of the computer may vary.

#### Connecting the USB cable

After you have completed connecting the DVI/VGA/DP cable, follow the procedure below to connect the USB cable to the computer and complete your monitor setup:

- Connect the upstream USB port (cable supplied) to an appropriate USB port on your computer. (See bottom view for details.)
   Connect USB peripherals to the downstream USB ports (side or bottom) on the monitor. (See side or bottom view for details.)

- Connect USB peripherals to the downstream usb poins (side of bottom) on the monitor. (See side of bottom) on the monitor.
   Plug the power cables for your computer and monitor into a nearby outlet.
   Turn on the monitor and the computer.
   If your monitor displays an image, installation is complete. If it does not display an image, see <u>Solving Problems</u>.
   Use the cable slot on the monitor stand to organize the cables.

#### **Organizing Your Cables**

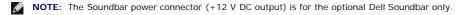


After attaching all necessary cables to your monitor and computer, (See Connecting Your Monitor for cable attachment,) use the cable management slot to organize all cables as shown above.

## **Attaching the Soundbar (Optional)**



CAUTION: Do not use with any device other than the Dell Soundbar.



To attach the Soundbar:

- 1. Working from the back of the monitor, attach the Soundbar by aligning the two slots with the two tabs along the bottom of the monitor.
- 2. Slide the Soundbar to the left until it snaps into place.
- 3. Connect the Soundbar with the DC power connector.
- 4. Insert the mini stereo plug from the back of the Soundbar into the computer's audio output jack.

#### Removing the Stand

NOTE: To prevent scratches on the LCD screen while removing the stand, ensure that the monitor is placed on a soft, clean surface.

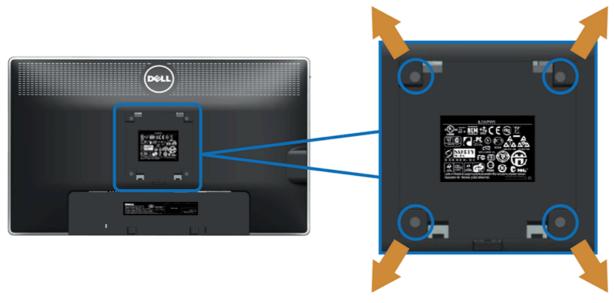
NOTE: This is applicable for a monitor with a stand. When any other stand is bought, please refer to the respective stand setup guide for set up instructions.



To remove the stand:

- Place the monitor on a flat surface.
   Press and hold the Stand release button.
- 3. Lift the stand up and away from the monitor.

## **Wall Mounting (Optional)**



(Screw dimension: M4 x 10 mm).

Refer to the instructions that come with the VESA-compatible base mounting kit.

- 1. Place the monitor panel on a soft cloth or cushion on a stable flat table.
- 2. Remove the stand.

- 3. Use a screwdriver to remove the four screws securing the plastic cover.

  4. Attach the mounting bracket from the wall mounting kit to the LCD.

  5. Mount the LCD on the wall by following the instructions that came with the base mounting kit.

NOTE: For use only with UL Listed Wall Mount Bracket with minimum weight/load bearing capacity of 2.74 kg.

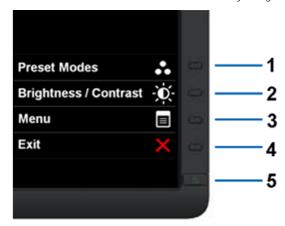
## **Operating the Monitor**

Dell™ P2012H Flat Panel Monitor User's Guide

- Using the Front Panel Controls
- Using the On-Screen Display (OSD) Menu
- PowerNap with Enhanced Menu Rotation Software
- Setting the Maximum Resolution
- Using the Dell Soundbar (Optional)
- Using the Tilt, Swivel, and Vertical Extension
- Rotating the monitor
- Adjusting the Rotation Display Settings of Your System

#### **Using the Front Panel**

Use the control buttons on the front of the monitor to adjust the characteristics of the image being displayed. As you use these buttons to adjust the controls, an OSD shows the numeric values of the characteristics as they change.



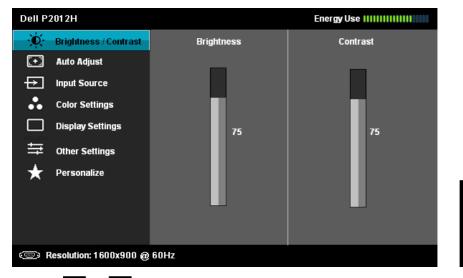
The following table describes the front panel buttons:

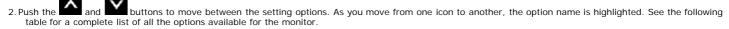
F	ront panel Button	Description
1	Shortcut key/ Preset Modes	Use this button to choose from a list of preset color modes.
2	Shortcut key / Brightness/Contrast	Use this button to directly access the "Brightness/Contrast" menu.
3	Menu	Use the MENU button to launch the on-screen display (OSD) and select the OSD Menu. See Accessing the Menu System.
4	Exit	Use this button to go back to the main menu or exit the OSD main menu.
5	(l)	Use the Power button to turn the monitor on and off.  The Blue LED indicates the monitor is on and fully functional. An amber LED indicates DPMS power save mode.

#### **Accessing the Menu System**

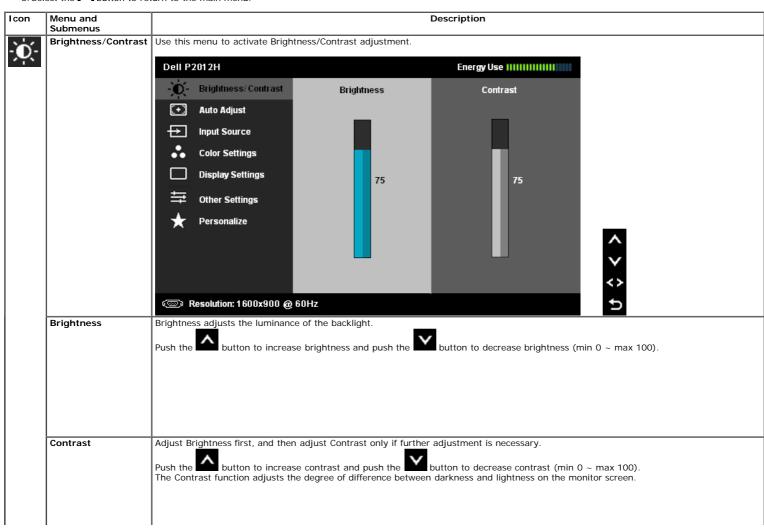
NOTE: If you change the settings and then either proceed to another menu or exit the OSD menu, the monitor automatically saves those changes. The changes are also saved if you change the settings and then wait for the OSD menu to disappear.

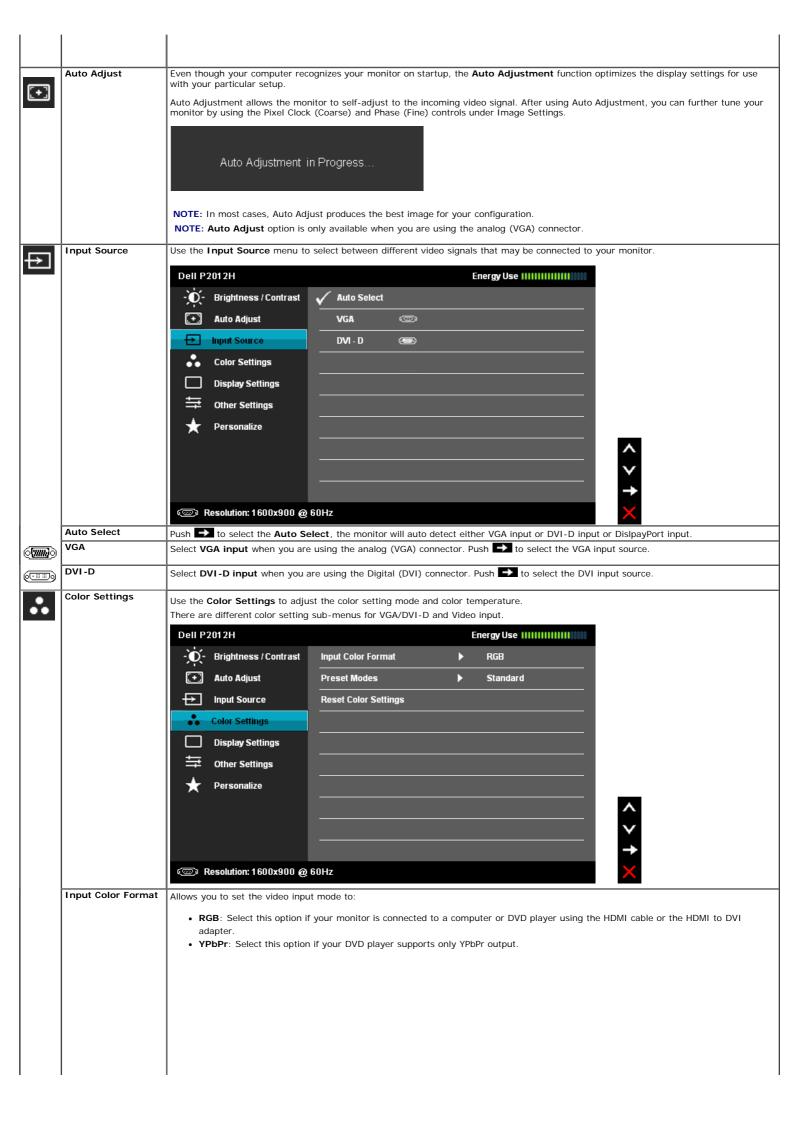
1. Push the button to launch the OSD menu and display the main menu.





- 3. Push the button once to activate the highlighted option.
- button to select the desired parameter
- 5. Push to enter the slide bar and then use the buttons, according to the indicators on the menu, to make your changes.
- 6. Select the button to return to the main menu.







Resolution: 1600x900 @ 60Hz

Brightness / Contrast

Auto Adjust

Input Source

Color Settings

Display Settings
Other Settings
Personalize

Resolution: 1600x900 @ 60Hz

adjust the hue from '0' to '100'.

Input Color Format

**Reset Color Settings** 

• Standard: Loads the monitor's default color settings. This is the default preset mode.

Warm: Increase the color temperature. The screen appears warmer with a red/yellow tint.
 Cool: Decreases the color temperature. The screen appears cooler with a blue tint.

This feature can shift color of video image to green or purple. This is used to adjust the desired flesh tone color. Use

Multimedia: Loads color settings ideal for multimedia applications.
 Movie: Loads color settings ideal for most movie applications.
 Game: Loads color settings ideal for most gaming applications.
 Text: Loads color settings ideal for text.

G, B) values and create your own preset color mode.

to increase the green shade of the video image.

to increase the purple shade of the video image.

**Preset Modes** 

Saturation

Hue

Dell P2012H

-**`**Oʻ-

Hue

**Custom Color** 

Standard Multimedia

✓ Movie

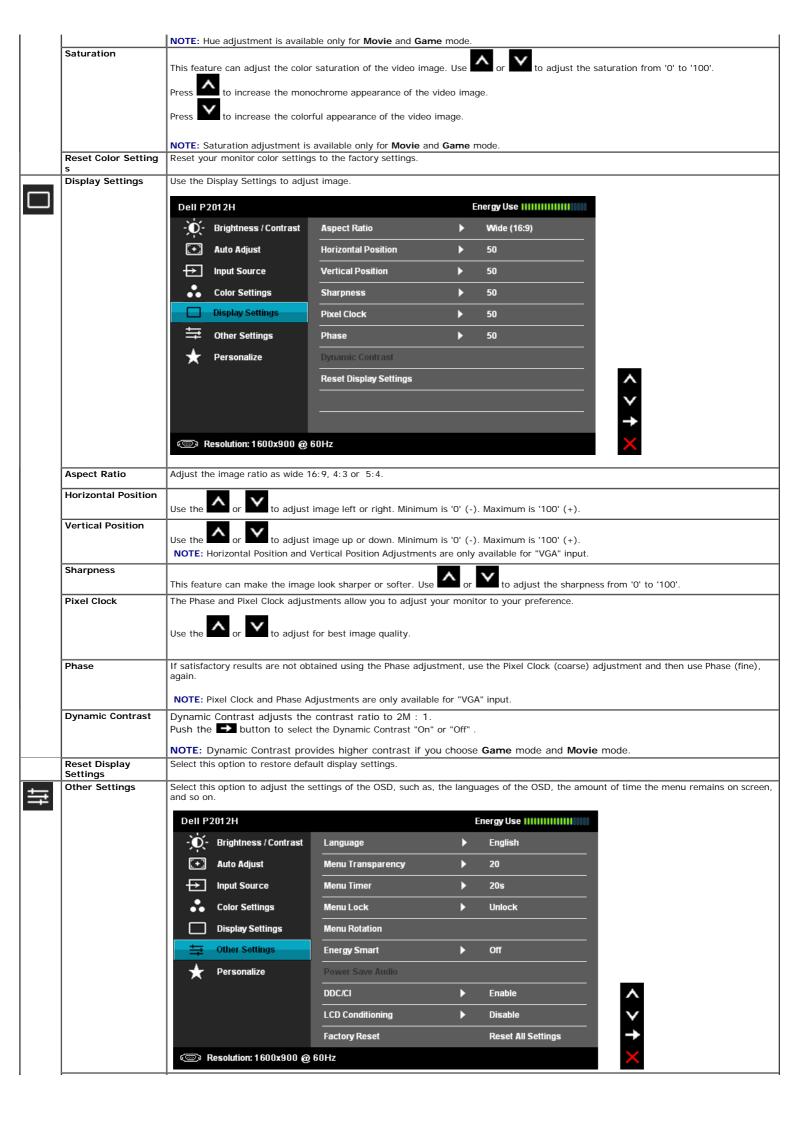
Game

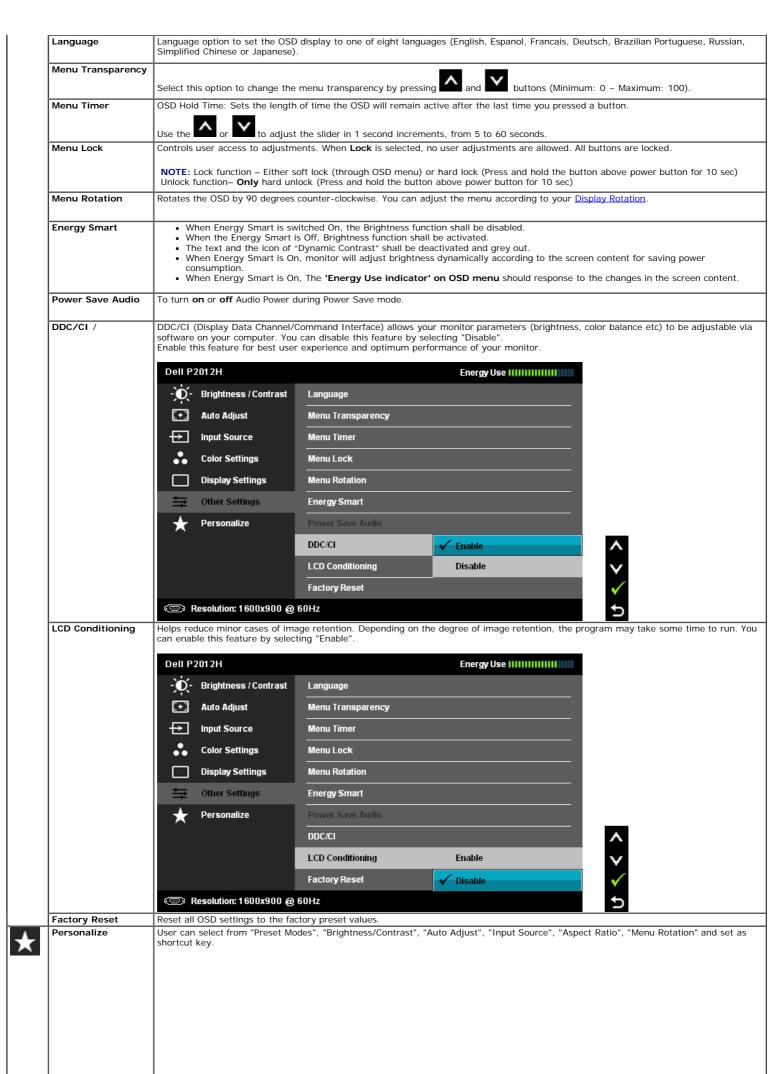
Warm Cool

• Custom Color: Allows you to manually adjust the color settings. Press the and buttons to adjust the three colors (R,

**Custom Color** 

Energy Use !!!!!!!!!!!!!!!!!!

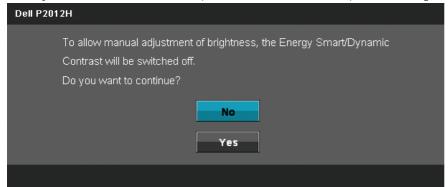






#### **OSD Warning Messages**

When Dynamic Contrast Feature is enabled (in these modes: Game and Movie), the manual brightness adjustment is disabled.

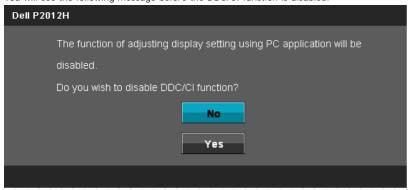


When the monitor does not support a particular resolution mode you will see the following message:



This means that the monitor cannot synchronize with the signal that it is receiving from the computer. See Monitor Specifications for the Horizontal and Vertical frequency ranges addressable by this monitor. Recommended mode is 1600 x 900.

You will see the following message before the DDC/CI function is disabled

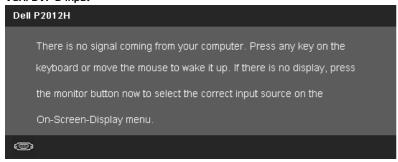


When monitor enters Power Save mode, the following message appears:

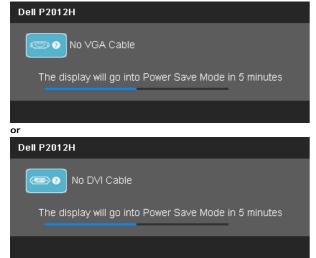


Activate the computer and wake up the monitor to gain access to the OSD

If you press any button other than the power button one of the following messages will appear depending on the selected input: **VGA/DVI-D input** 



If either VGA or DVI-D input is selected and both VGA and DVI-D cables are not connected, a floating dialog box as shown below appears.



See Solving Problems for more information.

#### PowerNap with Enhanced Menu Rotation Software

The PowerNap with Enhanced Menu Rotation software comes in the CD that shipped with the monitor you have just purchased. This software provides two functions – power-saving mode and allows for easy pivoting from landscape to portrait and vice versa.

The power-saving mode allows the user to select "Screen dim" or " Sleep" when the PC goes to the screensaver mode.

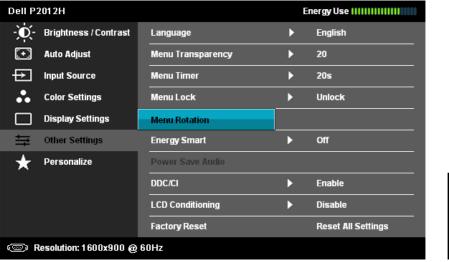
- 1. Screen dim monitor dims to minimum brightness level when the PC is in the screensaver mode.
- 2. Sleep monitor goes into the sleep mode when the PC is in the screensaver mode.



The Enhanced Menu Rotation function allows for pivoting of the monitor screen from the Monitor On Screen Menu Control, selection of "Landscape" and "Portrait" will trigger the monitor screen accordingly.

NOTE: PowerNap with Enhanced Menu Rotation function operates on VGA and DVI interface only.

Picture of Enhanced Menu Rotation screen shot (OSD Menu selections to trigger Enhanced Menu Rotation function)





NOTE: After installation, one desktop shortcut and one shortcut under "Start" for PowerNap are created OS support: Windows XP32, XP64, Vista32, Vista64, Win 7. Output interface support: VGA and DVI.

The latest version of the PowerNap Software can be downloaded from Dell's website. This will ensure that the software is compatible with your graphics card.

Steps to download software:

Go to http://www.support.dell.com

Select "Monitor Drivers" under "Drivers and downloads" tab

Select your Monitor Model - PowerNap Application

Download and install application

#### **Setting the Maximum Resolution**

To set the Maximum resolution for the monitor:

Windows XP:

- Right-click on the desktop and select Properties
- Select the **Settings** tab.

  Set the screen resolution to **1600 x 900**.
- Click OK

Windows Vista® or Windows® 7:

- Right-click on the desktop and select Personalization.
   Click Change Display Settings.
- 3. Move the slider-bar to the right by pressing and holding left-mouse button and adjust the screen resolution to 1600 x 900.

If you do not see 1600 x 900 as an option, you may need to update your graphics driver. Depending on your computer, complete one of the following procedures:

If you have a Dell desktop or portable computer:

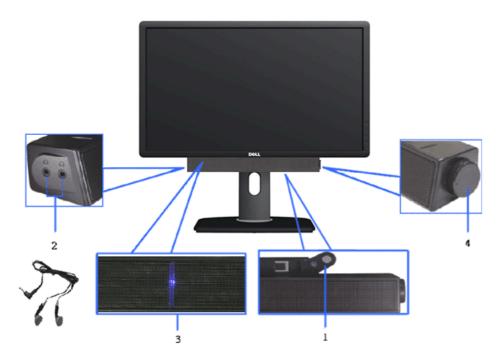
• Go to support.dell.com, enter your service tag, and download the latest driver for your graphics card.

If you are using a non-Dell computer (portable or desktop):

- Go to the support site for your computer and download the latest graphic drivers.
- Go to your graphics card website and download the latest graphic drivers.

#### **Using the Dell Soundbar (Optional)**

The Dell Soundbar is a stereo two channel system adaptable to mount on Dell Flat Panel Displays. The Soundbar has a rotary volume and on/off control to adjust the overall system level, a blue LED for power indication, and two audio headset jacks.



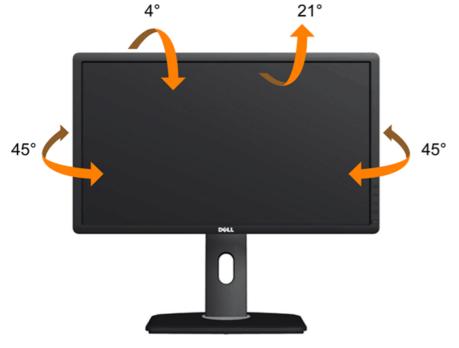
- 1. Attach mechanism
- 2. Headphone jacks
- 3. Power indicator
- 4. Power/Volume control

## Using the Tilt, Swivel, and Vertical Extension

NOTE: This is applicable for a monitor with a stand. When any other stand is bought, please refer to the respective stand setup guide for set up instructions

#### Tilt, Swivel

With the built-in pedestal, you can tilt the monitor for the most comfortable viewing angle.



**NOTE**: The stand is detached when the monitor is shipped from the factory.

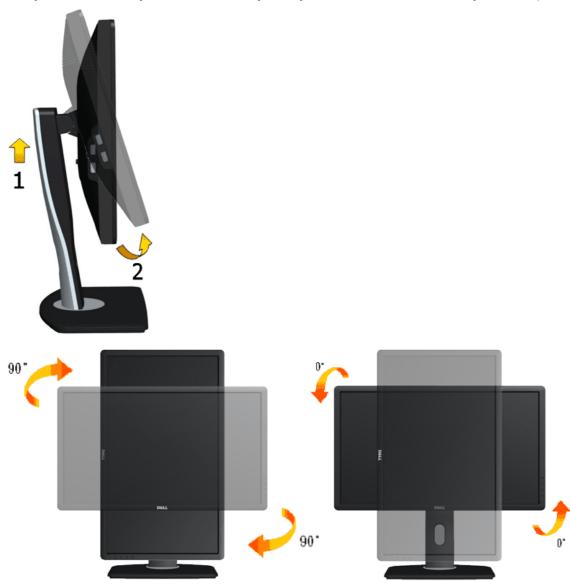
#### **Vertical Extension**

NOTE: The stand extends vertically up to 130 mm. The figures below illustrate how to extend the stand vertically.



## **Rotating the Monitor**

Before you rotate the monitor, your monitor should be fully vertically extended (Vertical Extension) and fully tilted (Tilt) up to avoid hitting the bottom edge of the monitor.





#### **Adjusting the Rotation Display Settings of Your System**

After you have rotated your monitor, you need to complete the procedure below to adjust the Rotation Display Settings of Your System.



NOTE: If you are using the monitor with a non-Dell computer, you need to go the graphics driver website or your computer manufacturer website for information on rotating the 'contents' on your display.

To adjust the Rotation Display Settings:

- Right-click on the desktop and click **Properties**.
   Select the **Settings** tab and click **Advanced**.
   If you have an ATI graphics card, select the **Rotation** tab and set the preferred rotation.
   If you have an Intel<sup>®</sup> graphics card, click the **nVidia** tab, in the left-hand column select **NVRotate**, and then select the preferred rotation.
   If you have an Intel<sup>®</sup> graphics card, select the **Intel** graphics tab, click **Graphic Properties**, select the **Rotation** tab, and then set the preferred rotation.

NOTE: If you do not see the rotation option or it is not working correctly, go to support.dell.com and download the latest driver for your graphics card.

## **Troubleshooting**

Dell™ P2012H Flat Panel Monitor User's Guide

- Self-Test
- **Built-in Diagnostics**
- Common Problems
- **Product Specific Problems**
- Universal Serial Bus Specific Problems
- **Dell Soundbar Problems**

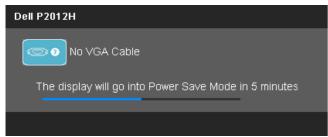
**MARNING**: Before you begin any of the procedures in this section, follow the Safety Instructions.

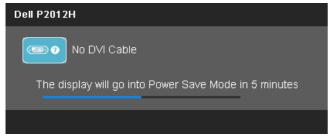
#### **Self-Test**

Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

- 1. Turn off both your computer and the monitor.
- 2. Unplug the video cable from the back of the computer. To ensure proper Self-Test operation, remove all Digital (white connector) and the Analog (blue connector) cables from the back of computer.
- 3. Turn on the monitor.

The floating dialog box should appear on-screen (against a black background) if the monitor cannot sense a video signal and is working correctly. While in self-test mode, the power LED remains blue. Also, depending upon the selected input, one of the dialogs shown below will continuously scroll through the screen.





- 4. This box also appears during normal system operation if the video cable becomes disconnected or damaged.
- 5. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor

If your monitor screen remains blank after you use the previous procedure, check your video controller and computer, because your monitor is functioning properly.

#### **Built-in Diagnostics**

Your monitor has a built-in diagnostic tool that helps you determine if the screen abnormality you are experiencing is an inherent problem with your monitor, or with your computer and video card.

NOTE: You can run the built-in diagnostics only when the video cable is unplugged and the monitor is in self-test mode.



To run the built-in diagnostics:

- Ensure that the screen is clean (no dust particles on the surface of the screen).
   Unplug the video cable(s) from the back of the computer or monitor. The monitor then goes into the self-test mode.
- 3. Press and hold the Button 1 and Button 4 on the front panel simultaneously for 2 seconds. A gray screen appears.
- 4. Carefully inspect the screen for abnormalities.
- Press the **Button 4** on the front panel again. The color of the screen changes to red.
   Inspect the display for any abnormalities.
   Repeat steps 5 and 6 to inspect the display in green, blue, black, white screens.

The test is complete when the white screen appears. To exit, press the Button 4 again.

If you do not detect any screen abnormalities upon using the built-in diagnostic tool, the monitor is functioning properly. Check the video card and computer.

#### **Common Problems**

The following table contains general information about common monitor problems you might encounter and the possible solutions.

Common Symptoms	What You Experience	Possible Solutions
No Video/Power LED off	No picture	<ul> <li>Ensure that the video cable connecting the monitor and the computer is properly connected and secure.</li> <li>Verify that the power outlet is functioning properly using any other electrical equipment.</li> <li>Ensure that the power button is depressed fully.</li> <li>Ensure that the correct input source is selected via the <u>Input Source Select</u> button.</li> </ul>
No Video/Power LED on	No picture or no brightness	Increase brightness & contrast controls via OSD. Perform monitor self-test feature check. Check for bent or broken pins in the video cable connector. Run the built-in diagnostics. Ensure that the correct input source is selected via the Input Source Select button.
Poor Focus	Picture is fuzzy, blurry, or ghosting	<ul> <li>Perform Auto Adjust via OSD.</li> <li>Adjust the Phase and Pixel Clock controls via OSD.</li> <li>Eliminate video extension cables.</li> <li>Reset the monitor to Factory Settings.</li> <li>Change the video resolution to the correct aspect ratio (16:9).</li> </ul>
Shaky/Jittery Video	Wavy picture or fine movement	<ul> <li>Perform Auto Adjust via OSD.</li> <li>Adjust the Phase and Pixel Clock controls via OSD.</li> <li>Reset the monitor to Factory Settings.</li> <li>Check environmental factors.</li> <li>Relocate the monitor and test in another room.</li> </ul>
Missing Pixels	LCD screen has spots	<ul> <li>Cycle power on-off.</li> <li>Pixel that is permanently off is a natural defect that can occur in LCD technology.</li> <li>For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: support.dell.com.</li> </ul>
Stuck-on Pixels	LCD screen has bright spots	Cycle power on-off.     Pixel that is permanently off is a natural defect that can occur in LCD technology.     For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: support.dell.com.
Brightness Problems	Picture too dim or too bright	Reset the monitor to Factory Settings. Auto Adjust via OSD. Adjust brightness & contrast controls via OSD.
Geometric Distortion	Screen not centered correctly	<ul> <li>Reset the monitor to Factory Settings.</li> <li>Auto Adjust via OSD.</li> <li>Adjust horizontal &amp; vertical controls via OSD.</li> </ul> NOTE: When using DVI-D input, the positioning adjustments are not available.
Horizontal/Vertical Lines	Screen has one or more lines	Reset the monitor to Factory Settings.     Perform Auto Adjust via OSD.     Adjust Phase and Pixel Clock controls via OSD.     Perform monitor self-test feature check and determine if these lines are also in self-test mode.

Synchronization Problems	Screen is scrambled or appears torn	<ul> <li>Perform Auto Adjust via OSD.</li> <li>Adjust Phase and Pixel Clock controls via OSD.</li> <li>Perform monitor self-test feature check to determine if the scrambled screen appears in self-test mode.</li> <li>Check for bent or broken pins in the video cable connector.</li> </ul>
Safety Related Issues	Visible signs of smoke or	Restart the computer in the <i>safe mode</i> .      Do not perform any troubleshooting steps.
	sparks	Contact Dell immediately.
Intermittent Problems	Monitor malfunctions on & off	<ul> <li>Ensure that the video cable connecting the monitor to the computer is connected properly and is secure.</li> <li>Reset the monitor to Factory Settings.</li> <li>Perform monitor self-test feature check to determine if the intermittent problem occurs in self-test mode.</li> </ul>
Missing Color	Picture missing color	Perform monitor self-test feature check.  Insure that the video cable connecting the monitor to the computer is connected properly and is secure.  Check for bent or broken pins in the video cable connector.
Wrong Color	Picture color not good	<ul> <li>Change the Color Setting Mode in the Color Settings OSD to Graphics or Video depending on the application.</li> <li>Try different Color Preset Settings in Color Settings OSD. Adjust R/G/B value in Color Settings OSD if the Color Management is turned off.</li> <li>Change the Input Color Format to PC RGB or YPbPr in the Advance Setting OSD.</li> <li>Run the built-in diagnostics.</li> </ul>
image left on the monitor for a	Faint shadow from the static image displayed appears on the screen	Use the Power Management feature to turn off the monitor at all times when not in use (for more information, see <a href="Power Management Modes">Power Management Modes</a> ).  Alternatively, use a dynamically changing screensaver.

## **Product Specific Problems**

Specific Symptoms	What You Experience	Possible Solutions
	Image is centered on screen, but does not fill entire viewing area	Check the Scaling Ratio setting in Image Setting OSD     Reset the monitor to Factory Settings.
Cannot adjust the monitor with the buttons on the front panel	OSD does not appear on the screen	<ul> <li>Turn off the monitor, unplug the power cord, plug back, and then turn on the monitor.</li> <li>Check whether OSD is locked. If yes, press and hold button above power button for 10 seconds to unlock. See <u>Menu Lock</u>.</li> </ul>
controls are pressed	No picture, the LED light is green. When you press "+", "-" or "Menu" key, the message "No S-Video input signal", or "No Composite input signal", or "No Component input signal" appears	<ul> <li>Check the signal source. Ensure the Computer is not in the power saving mode by moving the mouse or pressing any key on the keyboard.</li> <li>Check to make sure Video Source to S-Video, Composite or Component is powered and playing video media.</li> <li>Check whether the signal cable is plugged in properly. Re-plug the signal cable if necessary.</li> <li>Reset the computer or video player.</li> </ul>
	The picture cannot fill the height or width of the screen	<ul> <li>Due to different video formats (aspect ratio) of DVDs, the monitor may display in full screen.</li> <li>Run the built-in diagnostics.</li> </ul>

NOTE: When choosing DVI-D mode, the Auto Adjust function will not be available.

# Universal Serial Bus (USB) Specific Problems

Specific Symptoms	What You Experience	Possible Solutions
USB interface is not working	USB peripherals are not working	<ul> <li>Check that your monitor is turned ON.</li> <li>Reconnect the upstream cable to your computer.</li> <li>Reconnect the USB peripherals (downstream connector).</li> <li>Switch off and then turn on the monitor again.</li> <li>Reboot the computer.</li> <li>Some USB devices like external portable HDD require higher electric current; connect the device directly to the computer system.</li> </ul>
High Speed USB 2.0 interface is slow.	High Speed USB 2.0 peripherals working slowly or not working at all	<ul> <li>Check that your computer is USB 2.0-capable.</li> <li>Some computers have both USB 2.0 and USB 1.1 ports. Ensure that the correct USB port is used.</li> <li>Reconnect the upstream cable to your computer.</li> <li>Reconnect the USB peripherals (downstream connector).</li> <li>Reboot the computer.</li> </ul>

## **Dell™ Soundbar Problems**

Common Symptoms	What You Experience	Possible Solutions
	No power to Soundbar - the power indicator is off	<ul> <li>Turn the Power/Volume knob on the Soundbar clockwise to the middle position; check if the power indicator (Blue LED) on the front of the Soundbar is illuminated.</li> <li>Confirm that the power cable from the Soundbar is plugged into the adapter.</li> </ul>

No Sound	Soundbar has power - power indicator is on	<ul> <li>Plug the audio line-in cable into the computer's audio out jack.</li> <li>Set all Windows volume controls to their maximum</li> <li>Play some audio content on the computer (i.e. audio CD, or MP3).</li> <li>Turn the Power/Volume knob on the Soundbar clockwise to a higher volume setting.</li> <li>Clean and reseat the audio line-in plug.</li> <li>Test the Soundbar using another audio source (i.e. portable CD player).</li> </ul>
Distorted Sound	Computer's sound card is used as the audio source	<ul> <li>Clear any obstructions between the Soundbar and the user.</li> <li>Confirm that the audio line-in plug is completely inserted into the jack of the sound card.</li> <li>Set all Windows volume controls to their midpoints.</li> <li>Decrease the volume of the audio application.</li> <li>Turn the Power/Volume knob on the Soundbar counter-clockwise to a lower volume setting.</li> <li>Clean and reseat the audio line-in plug.</li> <li>Troubleshoot the computer's sound card.</li> <li>Test the Soundbar using another audio source (i.e. portable CD player).</li> </ul>
Distorted Sound	Other audio source is used	<ul> <li>Clear any obstructions between the Soundbar and the user.</li> <li>Confirm that the audio line-in plug is completely inserted into the jack of the audio source.</li> <li>Decrease the volume of the audio source.</li> <li>Turn the Power/Volume knob on the Soundbar counter-clockwise to a lower volume setting.</li> <li>Clean and reseat the audio line-in plug.</li> </ul>
Unbalanced Sound Output	Sound from only one side of Soundbar	<ul> <li>Clear any obstructions between the Soundbar and the user.</li> <li>Confirm that the audio line-in plug is completely inserted into the jack of the sound card or audio source.</li> <li>Set all Windows audio balance controls (L-R) to their midpoints.</li> <li>Clean and reseat the audio line-in plug.</li> <li>Troubleshoot the computer's sound card.</li> <li>Test the Soundbar using another audio source (i.e. portable CD player).</li> </ul>
Low Volume	Volume is too low	<ul> <li>Clear any obstructions between the Soundbar and the user.</li> <li>Turn the Power/Volume knob on the Soundbar clockwise to the maximum volume setting.</li> <li>Set all Windows volume controls to their maximum.</li> <li>Increase the volume of the audio application.</li> <li>Test the Soundbar using another audio source (i.e. portable CD player).</li> </ul>

#### **Appendix**

Dell™ P2012H Flat Panel Monitor User's Guide

- Safety Instructions
- FCC Notice (U.S. Only) and Other Regulatory Information
- Contacting Dell

# **MARNING: Safety Instructions**



WARNING: Use of controls, adjustments, or procedures other than those specified in this documentation may result in exposure to shock, electrical hazards, and/or mechanical hazards.

For information on safety instructions, see the Product Information Guide.

#### FCC Notices (U.S. Only) and Other Regulatory Information

For FCC notices and other regulatory information, see the regulatory compliance website located at <a href="www.dell.com\regulatory">www.dell.com\regulatory</a> compliance.

#### **Contacting Dell**

For customers in the United States, call 800-WWW-DELL (800-999-3355).



NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

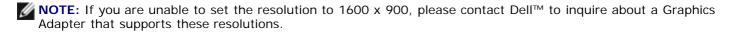
- 1. Visit support.dell.com
- 2. Verify your country or region in the Choose A Country/Region drop-down menu at the bottom of the page.
- 3. Click Contact Us on the left side of the page.
- 4. Select the appropriate service or support link based on your need.
- 5. Choose the method of contacting Dell that is convenient for you.

# **Setting Up Your Monitor**

**Dell™ P2012H Flat Panel Monitor** 

# If you have a Dell™ desktop or a Dell™ portable computer with internet access

- 1. Go to http://support.dell.com, enter your service tag, and download the latest driver for your graphics card.
- 2. After installing the drivers for your Graphics Adapter, attempt to set the resolution to 1600 x 900 again.



# **Setting Up Your Monitor**

**Dell™ P2012H Flat Panel Monitor** 

# If you have a non Dell™ desktop, portable computer, or graphics card

In Windows XP:

- 1. Right-click on the desktop and click Properties.
- 2. Select the Settings tab.
- 3. Select Advanced.
- 4. Identify your graphics controller supplier from the description at the top of the window (e.g. NVIDIA, ATI, Intel etc.).
- 5. Refer to the graphic card provider website for updated driver (for example, <a href="http://www.ATI.com">http://www.ATI.com</a> OR <a href="http://www.NVIDIA.com">http://www.NVIDIA.com</a> ).
- 6. After installing the drivers for your Graphics Adapter, attempt to set the resolution to 1600 x 900 again.

In Windows Vista® or Windows® 7:

- 1. Right-click on the desktop and click **Personalization**.
- 2. Click Change Display Settings.
- 3. Click Advanced Settings.
- 4. Identify your graphics controller supplier from the description at the top of the window (e.g. NVIDIA, ATI, Intel etc.).
- 5. Refer to the graphic card provider website for updated driver (for example, <a href="http://www.ATI.com">http://www.ATI.com</a> OR <a href="http://www.NVIDIA.com">http://www.NVIDIA.com</a> ).
- 6. After installing the drivers for your Graphics Adapter, attempt to set the resolution to 1600 x 900 again.

